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ABSTRACT

This handbook describes an application of the learning centers concept at the kindergarten level. The "learning centers approach" refers to a unique and systematic way of organizing for learning. Each separate "learning center" is a compact, transportable instructional package keyed to at least one specific learning outcome. The program, procedures, and materials explained in this booklet are designed to provide individualizing learning experiences. Detailed objectives and descriptions are included, and the most frequent questions about the program raised by kindergarten teachers are discussed. (CS)

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# INDIVIDUALIZATION IN KINDERGARTEN

## A LEARNING CENTERS APPROACH

PS 007240

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Cedarburg Public Schools - Project INTERACT (ESEA III)

ED 093472

# INDIVIDUALIZATION IN KINDERGARTEN:

## A Learning Centers Approach

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## INTRODUCTION

This booklet describes a program developed through the dedication and determined efforts of two teachers on Kindergarten - 1st Grade Team in a Multi - unit Elementary School over a period of four years. If there was one factor which helped determine success it was the complete and enthusiastic commitment these two professional educators have to their teaching. Their long hours and hard work, often outside of the school day, resulted in a sound and very effective program that truly helps children learn.

Any teacher, team, or school that would hope to adopt any or all of this program would have to display these same qualities.

This program has now been expanded upwards through the grades, and can be observed in practice at the Parkview Elementary School in Cedarburg sponsored through Wisconsin ESEA Title III.

Warren Schollaert, Principal
Parkview Elementary School
July, 1973

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INDIVIDUALIZATION IN KINDERGARTEN

A LEARNING CENTERS APPROACH

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# INDIVIDUALIZATION IN KINDERGARTEN
## A LEARNING CENTERS APPROACH

### FOREWORD

This handbook describes an application of the learning centers concept at the kindergarten level. The program, procedures, and materials were devised and implemented by Betty Gueller and Virginia Frey, team teaching kindergarten teachers at the Parkview Elementary School, Cedarburg, Wisconsin with the assistance of Project INTERACT, E.S.E.A. Title III.

The concept "learning centers," in this instance, is not to be confused with the frequent use of the term as a description of an unusual library or instructional media center.

Rather, the "learning centers approach" refers to a unique and systematic way of organizing for learning. In this sense, each of the hundreds of separate "learning centers" is a compact, transportable instructional package keyed to at least one specific learning outcome.

Learning centers provide a means of individualizing learning experiences. Children are coming to school with more knowledge and readiness skills than ever before. The use of "centers" makes it possible to capitalize on this background by providing learning opportunities appropriate to each individual. This does not suggest that large and small muscle activities, play oriented activities or the child's social and emotional growth are de-emphasized. To the contrary, learning centers are organized to foster development in these areas as well as readiness skills.

Use of learning centers as described here does not alter the humanistic characteristics traditionally associated with kindergarten. In fact, the centers approach allows the teacher to be more cognizant and responsive to the individuality and range of learning needs, while at the same time maintaining the warm and personal teacher - pupil relationships and identifications children of this age need and seek out.

The scope of this handbook is not all inclusive. It is not a "cookbook of recipes" that will guarantee implementation. Its aim is to alert others to the exciting possibilities for children when teachers seriously set about to change their ways. Therefore, objectives are stated explicitly, descriptions are detailed and the most frequent questions of other kindergarten teachers dealt with.

As in any educational effort, the product will only be as successful as the teacher's efforts, beliefs, determination, and creativity. A receptive and supportive school principal is essential and both may have to be creative and determined in changing traditional kindergarten expenditures for materials, equipment, and aide assistance. But without question, the teacher faces the biggest challenge, a change of role, which may be considerable but not insurmountable given a solid commitment and a clear goal to work for. Because of this, what follows is as much a story of what happened over three years as a description of a successfully functioning program for children.

## INDIVIDUALIZATION IN KINDERGARTEN: A LEARNING CENTERS APPROACH

Individualization in kindergarten? Most certainly -- in any number of ways it can be done!

### BEGIN WITH A COMMITMENT

In education today, we are urged to "move the child along at his own rate," "provide numerous activities for a child to choose from" and any number of other suggestions which imply individualization to some degree. We agree that these are all very sound statements, but it wasn't until we saw and felt the need for individualization in our own classrooms that we seriously began to act on them.

Some three years ago, as classroom teachers working in a kindergarten team, we began by observing our students and examining in detail the wide range of abilities and needs they demonstrated. We concluded that many children had already learned many readiness skills and were searching for something more. They needed more challenging material and ways of learning. We found children who needed more time for socialization and more time to learn skills. We identified children who had learned many skills but who we felt needed to learn to be more independent and experience success at learning on their own.

Faced with this kind of evidence, we felt more strongly than ever that the teacher - group orientation, of most kindergartens was not a satisfactory way of organizing to meet these kinds of needs. We wanted very much to provide experiences that would promote individualization, but the big question was, "What kind of a program or approach could we establish at the kindergarten level?"

### FOCUS ON LEARNER

It seems most new children's programs are developed first by determining what teachers will do and then deciding what benefits children will derive. We were determined to take a different approach.

Motivated by what we already knew about the wide range of our student's abilities, we agreed that our new program should be devised on the basis of what (content) and how (environment) we wanted them to learn. These were later called product and process objectives. (See sample capsule, Appendix)

By identifying learner based outcomes, it was decided that the individualized program should:

1. Provide for individual differences in children.
2. Allow children to learn some skills on their own.
3. Allow teachers to have time to work with children on a one-to-one or group basis.
4. Offer children opportunities to work and move about independently.
5. Provide challenges not repetition, for the very alert children.
6. Provide security and well - being among all the children.
7. Allow slower children to feel success while learning at their own rate.
8. Provide a number of different learning experiences for children to choose from but still have them acquire skills identified at this level.
9. Provide for children who need more time for developing social relationships in addition to acquiring readiness skills.
10. Help children assume greater responsibility.
11. Help children perceive the teacher as their guide, not their sole source of learning.
12. Help children to reason on their own and learn to make more of their own decisions.
13. Allow children to work at their own rate and attain self - discipline and pride in their work in a challenging, satisfying and enjoyable manner.
14. Provide for a number of choices once assigned tasks were completed.
15. Encourage children to help each other learn.

Considering these expectations, it was obvious that we, as teachers, would have to replace many of the traditional ways teachers have organized for instruction. With this in mind, we developed a program that has proven to be successful, both in establishing the kind of

learning environment we desired and in helping children achieve and enjoy learning. We have called it our learning centers program. It still needs polishing and continuous evalution, but we feel it is a very good start and one you may want to use as your first step into individualized learning.

## WHAT IS A LEARNING CENTER?

A learning center is an area within a classroom at which a single child (or small group) can work independently with appropriate materials to achieve a specific learning objective.

## THE LEARNING CENTER ENVIRONMENT: A UNIQUE PROCESS

In definition, a learning center is more a unique process than a physical space. Although most questions initially concern the tangible items such as materials, a learning center can best be defined in terms of PROCESS --

*What a child does* --What characterizes the learning process at a center?

*What a teacher does* --What are the responsibilities of the teacher?

In this sense, the process creates a learning environment with clearly identified roles for both teacher and child as defined by six key INDICATORS OF INDIVIDUALIZATION.*

| INDICATOR OF INDIVIDUALIZATION |
| --- |
| At a learning center, the child pursues a specific learning objective |

It is important to understand that each of the learning centers is organized around a specific outcome. The bulk of the centers now operating deal with learning objectives in math, language, art, and small muscle development. Each of these objectives is a part of the greater scope and sequence of objectives in these areas developed by the school. The scope of learning objectives in a particular area range from those appropriate to four year olds through the advanced development typical of a twelve to thirteen year old child. Obviously, the kindergarten program would be primarily concerned with low order outcomes but even within a five year old kindergarten, achievement will range from basic readiness skills to competency generally associated with six and seven year olds. This was one of the reasons the individualized kindergarten program was developed. To be able to involve children in a continuous learning program from the beginning and to avoid interrupting growth achieved before reaching school age. In effect, many kindergarten programs penalize children by the inability of the program to respond to individual growth patterns.

Each learning center has at least one outcome. The child, as he involves himself at a center, understands that the learning activity he engages in is for a specific purpose. Why should learning be a mystery? In the center's program, one responsibility of the teacher is to help the child understand the purpose or outcome of learning activity through careful explanation in simple language.

In many cases the child is able to explain the results that can be expected from successfully performing a learning task. In any case, this kind of effort by the teacher is essential to the development of the child's attitude toward learning. Feedback from children indicate that it is entirely possible for a child of this age to understand that a successful performance becomes self - evident and that achievement of an objective represents a job well done. Because outcomes differ between children, they work at different centers at different times, and are not assigned to static groups. The child, it is hoped, will grow to understand that he is not in competition with others.

As in most kindergartens, the child takes home many products of his work at school. With the exception of art items, the outcome is typed or printed on papers etc. so that parents will understand the purpose behind these activities.

*For a detailed description of "INDICATORS OF INDIVIDUALIZATION" see INDIVIDUALIZED LEARNING: "What Can Happen When Teachers Change Their Ways." Publication of Project INTERACT, E.S.E.A. Title III.

It is not enough however, to have constructed learning centers around specific objectives. What is equally important is the question of knowing which of the centers is appropriate for a particular child. This, of course, rests on the teacher's knowledge and understanding of the children in addition to an extensive pre and post testing program with it's accompanying record keeping system.

INDICATOR OF INDIVIDUALIZATION

At a learning center the child is aware of the purposefulness of the learning activity he is engaged in

Purposefulness in learning is related to need. When an individual recognizes a need and can understand how it can be met through learning activity, the chances for success are increased. Learning becomes more effective when its purpose is clear. In the learning centers approach the young child becomes aware of the purposefulness of the learning activity he is involved in because his teachers share diagnostic information with him. This process has a second aspect to it in that as a child demonstrates achievement of a simple task, he advances to another in which he can apply what he has previously mastered. The achievement of a sequence of related tasks affords an opportunity to develop a meaningful concept of the interrelatedness of learning as well as achieve success in meeting long range goals.

Teachers actively assist in this process by helping the child understand what he can and cannot do at a given point in time on the premise that understanding this will help motivate and give meaning to learning activity. In the learning centers program, it is crucial that the child understand that what he does at a specific center will help him learn something he needs and can use.

The teachers also involve the children in correcting their own work (many centers have self - correctional devices built in), and setting short range goals. To make it possible for children to be aware of personal learning needs and involved in learning activities keyed to those needs, the teacher must be prescriptive. The answer to who goes to which learning center when is determined by examining diagnostic information. Although the child has the option of simply getting up and leaving a learning center if he finds it too perplexing or of revisiting centers he has already worked at and found intriguing, the first time a child goes to a center is on the prescription of the teacher. This decision is based on two factors.

1. Where the child is at in terms of a particular sequence of learning objectives.

2. The results of a pre - test for a center.

Pre and post tests for each center have been developed. Before being assigned to a center, the child is pretested. This is done by a teacher or a teacher aide.

The tests are simple, informal and based on an observable demonstration or oral response by the child. In this way, the teacher can maintain an individual growth chart for each child and is able to (1) avoid assigning children to centers that may prove to be redundant, (2) ensure the appropriateness of center assignments for specific individuals, (3) reinforce learning through reassignment or (4) recycle or schedule individual or small group work with a teacher.

Pretesting is done several days in advance of actual assignments to specific centers. This provides the teacher with information concerning which centers will be needed and sufficient lead time to set them up in advance of when they are actually utilized. The formal pre and post testing is supplemented by the continuous informal monitoring of centers by the teachers while the children work at them.

The diagnostic and record keeping systems are considered crucial to the success of the learning centers program as well as to the continuous learning of each of the children.

INDICATOR OF INDIVIDUALIZATION

At a learning center the child works independently

INDICATOR OF INDIVIDUALIZATION

At a learning center the child is self - directed

During the learning centers period of the kindergarten day, as many as 20 separate centers may be set up and operating. It is important to understand that during this period, the teacher is not directly involved at each center. Rather, the role of the teacher is one of monitoring the activity at each center and intervening only when necessary. During this period, the teacher also meets with individuals or small groups as she determines necessary or she is involved with the continuous pre and post testing process.

This is without question, a dramatic change in role for the teacher but essential if children are to learn on an individual basis. Individualization of learning at any level is not feasible if the child's learning experiences are dependent on the active direction and participation of teachers.

In the learning centers program, the child is allowed to work independently. Each individual pursues a learning outcome at his own rate and pace. Occasionally some centers are shared with small groups of classmates when, based on diagnostic results, the teacher assigns the same center to several individuals. However, the child is clearly not locked into group paced or ability based groups. The sharing of centers is temporary, and the same combination of children may never occur again.

In the learning centers program, the child is also allowed to be self - directed, free to make decisions without the continuous and direct approval and guidance of the teacher as he proceeds. In fact, children can decide to leave a center without the permission of the teacher and are free to choose from a wide variety of centers without being assigned by a teacher. In other kinds of centers, the children decide when, within a period of four or five days they will work at an assigned center.

Independence and self - direction are learned attributes. No child can be expected to be totally self - directed or independent at any age level, particularly kindergarten, without the opportunity to learn how to learn in this fashion. Therefore, while independence and self - direction are essential to a fully functioning individualized program, they are also key learner outcomes that can be increasingly developed under the careful monitoring of the teacher when the learning environment is designed for that purpose.

INDICATOR OF INDIVIDUALIZATION

At a learning center the child uses a wide variety of learning materials.

The individualized learning experience each center represents is heavily dependent on the child's independent use of appropriate materials.

The first criterion of center's materials is that they must be appropriate, that is, they must be of such a nature that their use will lead to the desired outcomes. Commercial materials are really tools, not an end in themselves. Unfortunately, many such materials may not produce a predictable outcome or may not match your objectives. It is imperative that all commercial materials be carefully scrutinized for appropriateness in terms of outcome.

The second basic criterion for centers materials is that they consist primarily of non - print or print in combination with non - print. The obvious reasoning here is that print materials requiring reading ability would be self - defeating. Beyond that though is the evidence supporting non - print materials as being more efficient and effective as learning vehicles. Audio tapes, transparencies, records, pictures, and manipulative materials among many categories employed have proven to be very successful as motivating devices and efficient learning vehicles.

Experience in the learning centers program suggests that few commercially produced materials prove to meet the criteria of appropriateness and non - print. Therefore, most materials used in the centers program have either been developed exclusively by the teachers or have been adapted for use. Many centers utilize audio tapes to provide direction or introductory explanations. All of these kinds of tapes were teacher produced. Heavy reliance on non - print materials make it mandatory that each child learn to competently operate all audio - visual hardware located at centers. These machines include audio tape playback and record units, overhead projectors, viewers, headsets, terminal boxes etc. The development of these kinds of skills requires time and are learner objectives treated meticulously during an introductory period of several months prior to the start of the actual learning centers program.

Materials are a crucial element in each center learning experience. They must be chosen or developed to provide maximum opportunity to achieve a specific outcome; they should be primarily non - print or incorporate an audio - visual experience and they should actively involve the learner rather than forcing him to be passive. Initially the teacher may be hard pressed to develop or adapt motivating, reliable and valid materials that meet these criteria. Creativity is essential.

INDICATOR OF INDIVIDUALIZATION

At a learning center, the child receives Immediate Feedback.

The final indicator of individualization incorporated in the centers program is feedback. In individualized learning, the child is not totally dependent on the teacher to decide if something has been learned. Many of the centers incorporate self - corrective devices to allow the child to receive immediate feedback and reinforcement. Frequently the completion of the task itself demonstrates to the child that the outcome has been achieved.

Simple devices such as overlays may be sufficient. While feedback, in terms of outcomes may take diverse forms, the underlying goal is to help the child develop the concept that success in learning can be an intrinsic decision and does not have to totally rest on the extrinsic approval of the teacher.

This kind of feedback is in addition to all the conscious efforts made by teachers to involve the child in monitoring his own progress by actively involving him in the formal and informal diagnostic procedures. Each center assignment has been preceeded by a pretest and each outcome is carefully evaluated by the teacher in a similar manner. This is a basic responsibility of the teacher – but the effect can have more meaning when the child participates. Learning should not be a mystery – even in the kindergarten.

The learning centers program has two distinct phases, the first involving preparatory activity for the second or fully functioning stage.

## THE PREPARATORY STAGE

The preparatory stage is extremely important to a successful learning centers program. It is a period of six to ten weeks for children to explore the learning environment and develop key process skills and self - confidence. Since the learning centers approach requires each child to assume more responsibility and independence than a more traditional program, much of the

first semester of kindergarten is devoted to learning activity aimed at developing a sense of responsibility and independence.

It is also a time to become familiar with the wide variety of media used in the program. Instruction should be organized to help children become familiar with various audio - visual hardware such as headsets, tapes, recorders, microphones, overhead projectors and phonographs. Understandably, certain "ground rules" are essential to an individualized program. As part of the preparatory stage rules dealing with voice, responsibility for cleaning - up before choices are made for other activities and use and replacement of materials were established. As much time was spent helping children understand why certain rules were established as was devoted to learning how to apply the rules.

Children were allowed to experiment will all the art media they would use independently once the centers were open. Step - by - step, teacher assisted art lessons were also held.

But most of all, these initial months are a time for children to get to know the teachers, their peers, develop friendships and learn to speak freely with teachers and friends.

In summary, the preparatory stage is a time devoted to:

1. Having children begin to realize their capabilities.
2. Motivating their interests and desire in learning.
3. Utilizing ways the child could learn on his own.
4. Helping children to realize that all learn at different rates, and in different ways.
5. Learning to respect each other for what they can offer.
6. Developing a good feeling toward one another so that when in need of assistance, other children as well as the teacher can help.
7. Helping the child realize that his teacher should be his guide,not his sole source of learning.
8. Helping the child realize he is capable of solving many of his l[illegible]e problems on his own. However, we wanted the child to feel that when he needed our security, we were always there.
9. Familiarizing the child with everything he might need or use. He would not have to ask where something was, or if it could be used by him, or where to place materials. (By the second semester, he should know everything about his room and about all materials in his room!)
10. Insuring that every child felt successful doing something.
11. Developing a sense of independence.
12. Helping the child to attempt to answer many of his own questions.

We felt it was very essential to develop all these objectives during the first semester so children could move independently and think for themselves during learning centers time. If not, we would have spent much of our time answering questions and moving from center to center to assist children because they could not work on their own. One of our primary objectives of having time available to work with individual children or small groups of children would have then been defeated.

## FULLY FUNCTIONING LEARNING CENTERS

An independent learning centers approach does affect the overall kindergarten program and therefore requires well defined time limits. However, the schedule must be flexible to reflect the nature of the activities, the moods of the children. The program and schedule changed as time, interest and other variables evolved. We still made time available for large muscle activities, socialization and other areas considered very important elements of the kindergarten program.

Sample Schedule
Morning and Afternoon

8:30 - 8:45 (12:30 - 12:45) - Children meet with own teacher, pledge to flag, calendar, get set for centers.

8:45 - 9:45 (12:45 - 1:45) - Learning centers, using entire room - teachers work with small groups of children according to skill needs, teachers working one - to - one, conferencing with children, teacher aide pre/post testing with children, and/or working with small groups.

9:45 - 10:10 (1:45 - 2:10) - Supervised free time activities, particularly large muscle, recess, and/or continued one - to - one with children in reading.

10:10 - 10:20 (2:10 - 2:20) - Evaluation time concerning centers, cooperation, or TLP of new skills.

10:20 - 10:35 (2:20 - 2:35) - Social studies, science presentations, group discussions, small group review and discussions.

10:35 - 10:50 (2:35 - 2:50) - Music, rhythms together.

10:50 - 11:00 (2:50 - 3:00) - Story, dramatizations.

## PROCEDURAL QUESTIONS AND ANSWERS

During the past three years a number of procedural questions have been raised by other teachers in the district as they began to implement the learning centers approach. Visiting teachers from other districts have also inquired about the mechanics of the program. In the narrative that follows, we have attempted to describe how a full - functioning learning centers program operates by responding to the questions asked most frequently by other kindergarten teachers.

Question 1: What skills are to be included?

We used the Cedarburg Parkview School's Reading and Math performance objectives (K - 5) as our basis of skills to be learned. We used Level "A" skills and worked into Level "B" skills as the child moved or time permitted. We then developed a reading skills and math skills checklist and used the results of post tests we developed to identify skills that needed re - enforcement.

Question 2: Having identified outcomes, how are the learning centers set up so that children can work independently?

We made primary use of earphones, recorders, and tapes supplemented by dittoed sheets or booklets. The tapes, sheets and booklets were developed by us. We started each tape with a motivation, then explained what skill (objective) they were going to work on, then the procedure for doing it before children were allowed to begin. The tapes usually told them what to do once they completed the center. (See sample audio - tape transcript, Appendix). Therefore, the center needed no further explanation by teachers. During the first six to eight weeks of school (preparatory stage) all the equipment was shown, procedures for using them were established and each child was post tested on methods for turning them on, off, and rewinding.

We also had centers set up with self - explanatory sheets or booklets. For example - one center was set up to help some children with visual - motor coordination. A large copy of what they were to do was posted on the board with a motivator next to the center. The children looked at the copy and knew exactly what to do. We developed self - learning booklets and tapes and a number of self - correctional materials so the children could get immediate feedback. We also made use of overhead projectors for some skill centers. The transparencies had an overlay attached so once the child did the work, he could put the overlay on and self - correct his work.

Question 3: How are centers made exciting to go to: How are the children motivated?

This is a very essential part of the centers program. For every center we set up, we made large, bright animals or objects. This naturally drew the children to the centers (and, if it was a favorite motivator, the children went to it frequently). Each day, the children would come to see if there were any new centers or new animals to greet them, and they were very disappointed if we did not have something new. For example, we made very large Sesame Street characters out of cardboard, covered with bright colored paper and had them on bulletin boards behind a center or hanging from the ceiling over a center. We often used

motivators to give the children a clue as to what they would do at the center before they even turned the tape on, or especially if no tape was being used. An example we used was a very large green frog. On his outstretched arm was a large fly and tie. The children would get much satisfaction in figuring out the skill just by looking at the clues. It was also another way to motivate them to go to the center. If the children loved a particular motivator, we left it up and just changed content of the center.

Question 4: What kinds of centers are used and about how many are available at a given time?

We usually had about 15 to 20 specific learning centers in math or reading. Some of these centers were set up to teach a skill, some were set up for pre - testing, others for post - testing a skill or strengthening a skill already introduced. Many were self - learning, self - correctional centers.

We also had six to seven art centers. We tried to have different art media at each center. Three of the centers were called "free art centers". One was for easel painting, one was a drawing center, and the other was a large table with many different materials to choose from. The children could draw, cut and paste, etc. for any idea they wished. The other four centers were for specific art projects. A simple product was hung from the ceiling in the middle of the center. Paper was cut and set out on counters. The children looked at the sample and then created their own, using our sample only as a basic idea. We had so much more creative work this way! We always had a clay table available. Children did have a choice of activities. Direct supervision was needed only when certain painting processes were used. We tried to keep all of the art centers independent work areas as much as possible. This was essential. One or two activities were marked with a "cookie monster". These centers were to be done by all students sometimes during the week. It was their responsibility to complete them.

Small muscle game centers were developed for children whose attention span would not keep them at skills centers for any great length of time. We set these centers up for the children who completed assigned tasks and no longer wanted to choose skills centers or art centers. They were also used by children who could learn skills, but still needed more time for socialization and sharing. These centers consisted of many different quiet game activities, stressing small muscle control, concentration, creativity, etc. Commercial games such as Crystal Climbers, Tinker Toys, Tovmakers, Shapees, Toy Builders, Candyland, Lotto Games, Sewing Kits, Legos, Snowflakes, Ring - A - Jings, etc. were also used extensively. These were available in open cupboards.

A social studies or science center was also set up. It usually had materials that the child could observe, use, or experiment with. The materials were related with the unit we were currently studying. However, if the children showed a continued interest even if a new unit was begun, we left materials out. A good example was the Under Sea Life unit. We had several sets of fins, masks, shells, undersea animal specimens, books, and pictures. The children could go there and discuss and use these materials as a choice of activity. We now plan to develop more interest centers in social studies, and science, where children can listen to a tape and/or experiment as tapes direct.

Question 5: How are learning centers arranged in a room?

Many of the centers require headsets and recorders. Some centers would use recorders only. These had to be placed in an area that would not interfere with another center near by and also had to be placed near electric outlets. The art centers had to be near counters and sinks and not on carpeting. There had to be freedom of movement, areas for small games to be played, and enough room for at least four children to work at one time at skills centers. The motivators could not overlap or hide another. Space had to be provided for the large muscle equipment and playhouse and for areas to use the equipment. Initially, we made all the motivators, determined which centers needed headsets, tape players, tables, etc. and then laid out all the centers with accompanying materials. We then spent many hours arranging and rearranging the room and the centers until we felt nothing interfered with another center and

everything was in balance. This initial step does cause frustrations and uncertainties for teachers, but once you have the room set up, it remains pretty much this way all semester and you only have to build motivators to size and change only what is done at each center. Occasionally tables were rearranged during the year.

Question 6: Once the centers are established, how do children know what to do? Where do they place completed work?

A way had to be found to let children know what their assigned tasks would be before choices could be made. It would be a tremendous waste of time to tell each child each morning where to go for his assigned task! As a solution, we color coded all the skills centers. Cardboard strands with a large construction paper square at the top were used. Then we ordered sturdy cardboard holders (Library Periodical File Boxes). (We called them mailboxes - another motivator for children) and set them on a shelf with each child's name on one. We cut small construction paper squares to match the large color codes at each center. Listings of all the centers available along with the color codes were also prepared. We put each child's name on a sheet and made it into a booklet called Centers Check Sheets Booklet. From this, we selected those centers we wanted a child to go to on a particular day. Using a c'.othespin for a holder, colored squares corresponding to the selected centers were clipped to the mailboxes. When the children arrived at school, they would immediately check their mailboxes to see which centers to go to. Although we changed the skills and motivators, we kept the same color code at the same center. This was done to help the child remember the color coding system. He would not have to hunt for the color on his mailbox after the first series of skills centers. When children completed work at the centers, they placed it in their own mailbox.

Not all children were given color code assignments each day because some had already succeeded in learning the skills set up at that particular time. Many of these children were ready for more advanced objectives in reading or in math. These children, who showed a desire as well as ability, were then placed in a reading program and were given first grade math PAC materials to work with. At no time were children pressured into undertaking these kinds of activities.

Each day one teacher met with the readers at the reading center in the room. Once the children began to read and the range of rates widened, individual conferences were set up. Task groups were established within the room when the need arose. While others moved to skills centers, the readers met daily to read independently or do skill work with the teacher. When they tired, they had the option of moving to any readiness skills centers, art centers, etc. or working with their math materials. They kept their work in their mailbox. They did reading daily; however, math PAC's were always there to do when they were interested.

Question 7: How do you keep track of what the child does? What is done with the child's completed work?

At the end of each class day, we took our Centers Checksheets Booklet and our Daily Task Work Booklet and sat down in front of the shelves of mailboxes. We went through each mailbox, checking every child's work, marking results in the Centers Checksheet Booklet. If any child did not complete work with the established accuracy level, we wrote "skill needing review" or "skill needing to be taught" in our Daily Task Work Booklet and then listed all the children who needed work with it under that heading. Sometimes there was only one child, sometimes several. We would then try to work with these children the next day or as soon as possible, talking with them about their mistakes. Then, using different materials, we worked further on the skill with them. We also kept records of how independently each child worked and whether or not he completed assigned tasks for that day. Going through each child's mailbox daily kept us very much aware of where each child was at because of the increase in the number of self - learning and self - corrective centers where the children's work does not need to be checked by the teacher, it takes approximately a half hour to go through all the mailboxes - checking the work and prescribing new centers.

Question 8: What about children who do not function independently at centers?

As in any program, there is always a small group of children who find it difficult to achieve self - discipline or be self - directed. They seem to work best under more direct supervision. We identified these children based upon their performance and when the centers program was introduced, kept close tabs on them and also had our paraprofessional aide work directly with them at the centers for a three to four week period. We assigned them to centers of short duration at first and then they had the choice of going to small games centers where they could be more self - directed and self - disciplined. We would then work with them as a group, on readiness skills. (The children in this group were not necessarily the slow learners - their abilities varied. However, their emotional characteristics were similar). These children did need reminders more often than others. Over a period of time they saw how others moved, and wished to try indirect supervision too. It worked for most, but we still had two or three who continually needed constant adult supervision.

Question 9: How do you know when children have achieved the skills? How do you keep track of skills attained?

When we felt a reasonable number of children had completed a skill, the aide administered a post test which was prepared for each skill. We also constructed a reading and math check list. It consisted of all the skills we felt important at Level "A" (initial level). If they passed the post test with the established degre of accuracy, that skill was marked on the check list (X) meaning achieved. If any child did not pass the test, our aide or a teacher would work with the child to help him, and then he would be re-tested. If a skill was introduced, but not achieved, we placed a slash mark (/). This meant that the child was exposed to the skill, but did not successfully demonstrate mastery.

Question 10: How are children's needs identified? What diagnostic techniques are used?

As mentioned earlier, we used the results of the children's work at skills centers, the results of pre tests, post tests, our skills checklists, and our knowledge about each child's abilities. This information was combined to determine skills centers assignments and to determine which skills we would work with on a daily, direct contact basis. Increasingly we became more aware of individual learning styles, and which kind of setting seemed to help the child learn most efficiently. Careful records were maintained on the kinds of materials and equipment the children used most. This kind of information also helped in determining needs and in making assignments.

Question 11: Do children need assistance at centers?

After a period of about two weeks, the only time children required assistance was when a tape would stick or when someone forgot to rewind a tape. They needed our assistance with the first problem, but the second was more often taken care of by the children. There always seemed to be children available who knew what the problem was, and would go and rewind the tape and get it set up for the child. Naturally reminders were given daily, but usually to the same small group of children. We found we had prepared them well during the introductory period and they required little assistance at centers. The idea of using tapes and being involved in many different activities at the same time was not frustrating or frightening to any.

Question 12: What do teachers do while children are at learning centers?

An advantage of this program is that it frees the teacher to work with individual children or small groups of children on varying skills at varying levels for a period of approximately one hour. First of all, we took our Daily Task Group Booklet which listed the names of students who needed help with particular skills. Just before children would go to centers, we would call a small number of children needing help with the same skill to stay with us as others moved to centers. We usually worked with these children while sitting on the carpet in an informal situation (never more than four in a group).

After working with an individual child or small group, we looked at our Daily Task Group Booklet for the next skill to be covered that day. If the child or children needing help were not involved with a tape at that time, we would call them or go to them and ask that they work with us for a short time. If they were involved at a tape center, we did not interrupt them. However, we would attempt to work with them later that day or else the following day.

The amount of time spent with any child or any group of children varied with the skill to be covered or with the children we were working with. Our schedule during this time was very flexible. It had to be if the children were moving at their own rates. When we saw a need in the children, we adjusted our time accordingly.

Each teacher was responsible for keeping track of her own children's skill needs. We set up our own daily tasks but compared skills to be taught or worked on that particular day. If some were the same, one of us would take all the children involved. This saved some time to work with others. Unfortunately, there was still never enough time to get as much done as we wished or we didn't have contact with all the children we wanted to in a particular day. Yet we strongly felt children were learning at their own rate and provided with many choices of activities and challenges to increase their skills, knowledge, and independence.

One very important factor: if we did not get to work with some children on skills on a particular day, we made certain we acknowledged them in some way during the remainder of the day. Some days were very frustrating because children wanted to move on, yet time was limited and we had to tell them, "Wait until tomorrow", or else we tried to work with them during music or recess. The children who began reading and doing advanced math wanted our constant attention. They were eager to read, eager to move on in their math work. Yet, we had all the others who would also like our time. They loved to do centers, but they also enjoyed the time to work and be with us. If they didn't get it, it was shown by their facial expressions, attitudes, or by some attention - getting device. They loved the times we spent with them - individual conferences were a must.

Question 13: Once children completed an assigned center, what did they do with the remaining time?

Options were made available. Children can then made their own choices of activity. For example, they can move to any other skills center, go to any of the art centers, go to the library corner, or to small games centers. The children who chose small games centers were those whose attention spans were short. Many did choose to remain at centers. The more advanced children chose to work with their math materials or read. During all of this time, we continued working with children on readiness skills and reading.

Question 14: How often are the centers changed?

Initially we set up 15 to 20 centers. As mentioned before, specific art project centers usually changed weekly. The small games centers remained the same. Social studies centers changed about every two to three weeks. The skills centers usually were set up for a two to three week period at the beginning. However, if a skill was achieved by all who were assigned that center, it was changed during the two to three week period. Some centers were carried over into the next set of centers because of the continued interest and needs of the children. Therefore, steady changes were made to maintain children's interest in centers. By changing

some skills centers every three to four days, we did not face the task of complete changeover at the end of a centers period.

We found that the first set of centers lasted for a three week period. Once children became more efficient in their movements and in their selections and became more independent, the centers had to be changed much more frequently. Toward the end of the year, we found we were changing the total group of centers weekly. We did spend hours after school and evenings developing the tapes, the motivators and then setting them up in the room. It took much time, but now we have established a complete art centers file, tapes file, motivator file, etc. In terms of the future, much of this work is completed and time can be spent in continued evaluation, refinement, and additions to centers.

We could not have kept the centers going without the devoted cooperation and dedication we had as co - workers. We planned and shared all the responsibilities. One or the other strives sew to it that the centers were kept up to date or changed. This cooperation and willingness as a team is essential to a successful individualized learning centers program. The help of our aides was also essential.

Question 15: What personnel is necessary to establish learning centers?

Certainly the complete cooperation of teachers as a team is essential. But, also indispensable is our aide who is responsible for many of the clerical duties, plus cutting paper for art projects, running off prepared sheets for skills centers, stapling booklets, preparing props, and checking out centers daily to keep them going. Each morning she checks with us for her assignments. Eventually, we just listed her jobs, and she no longer really needs to discuss it. She is most efficient and certainly plays an important part in the success of our program. She spends an hour each day on these duties.

She is a paraprofessional. We have her for 45 minutes in the morning and 45 minutes in the afternoon. She is an essential and integral part of our centers program. During the first semester, she assists us during art time, helps out with clean - up of art class, and works with small groups of children on skills using materials we had set up. She pre and post tests children on skills. During the second semester, she monitors the centers for the first two weeks, assisting children in the new setting and supervising children who can not work independently. She also works with small groups of children on skills they need. Much of her time is then spent pre and post testing children on all of our reading and math skills.

We had mailboxes (small cardboard boxes) set up on our counter for pre tests, post tests, re - tests and completed tests. A box was also set up for daily listings of specific children to work with, what to do with the child and the media to be used. The tests were stated in performance terms and then stapled to our class lists. All materials needed for the tests were placed in the manilla folder, labeled, and placed in the proper mailbox. When the aide arrives each day, she checks the boxes, gathers her materials and begins testing without any explanations from us.

We checked the results of testing daily to keep track of where the children were, who needed help and who could go on to a new skill. We also listed children we wanted the aide to work with, what they needed work on and the appropriate materials. The aide went to the box, read over the list, gathered the materials and proceeded to work with the children on review or reinforcement activities.

We have been fortunate to have such an outstanding aide to work with us. Because of this help, we have additional time to work with individual children and time for developing more centers.

Question 16: What basic materials are needed to set up and maintain learning centers?

1. A set of performance objectives in reading and math so you know which skills and concepts are to be introduced.
2. Checklists for reading and math so you can keep track of which skills children achieve and which ones remain.

3. Pre - tests to indicate where a child is at. Post - tests to find out if the child has achieved a skill.
4. Centers Check Sheets Booklet to keep track of the child's progress at centers.
5. Daily Task Work Booklet to list skills children need help with and to help you know on a daily basis what you will work on and with whom you will work.
6. Materials to use when working with individuals or small groups on skills.
7. A comprehensive booklet of centers ideas with specific objectives and materials to be used. (Samples attached)
8. Skill tapes with related materials. (Samples attached)
9. Motivators to accompany tape centers.
10. Tape recorders and play - back units (we used 10 to 12 most of the time).
11. Headsets and connectors (usually four to a table.)
12. Phonographs, overhead projector, self - corrective overhead transparencies.
13. Many tables and chairs.
14. Many small games, usually of commercial variety.
15. Usual large muscle equipment found in kindergarten rooms, playhouse, etc.
16. Mini library.
17. Art materials and a simple art file of tested projects.
18. File of related materials to accompany tapes.

## III. TEACHER ROLE AND EVALUATION

Question 17: How has our role as a teacher changed?

First of all, we have had to realize that we are guides for children, not their sole source of knowledge. We had to move from considering group needs to considering and working with individual needs. It meant providing a wealth of materials to meet all the needs of all the children in our room. It meant that the convenience of keeping everyone in a group to teach skills would be gone. Instead we felt the challenge and eventual security in teaching skills at varying levels. We found much satisfaction seeing the quick learner challenged and moving at a pace he enjoyed. We found great satisfaction in working with the slower child because we moved at his rate, not the rate of the majority in the classroom. We found these children gaining greater satisfaction and confidence.

We realized that our teaching schedule would become very flexible within the centers framework. We found that because we took the time to pre and post test and keep track of completed centers, we knew just about where each child was at and could work with him at a moments notice. Continuous monitoring pays off.

We found that we were now sure when a child knew a skill, because we did post test, re - test, etc. We no longer assumed a child learned a concept just because it was presented. We found that children could work independently. They didn't need our constant guidance and supervision. They could reason many problems out on their own. They could think on their own much of the time. It gave us a good feeling to see this happening, and it provided us with motivation to offer them more opportunities to learn and experiment on their own.

We also realized that even if the children could work independently and think pretty much on their own, they still needed the personal contact between child and teacher. They needed the individual conference or time to be just with us. This is so important to remember! They liked operating the equipment, working at various centers, but they also enjoyed working with us. This was special to them.

We also realized that we could not waste a minute during the day. We realized the need to know exactly where we were going as well as where each child was going, therefore, we had to establish specific performance objectives. We also realized that it was important for a child to know why he was doing something, not just how to do it or what to do. If the child knew there was a specific reason for his doing something, he went at it with greater effort, because he knew the eventual goal.

Occasionally we found some days very frustrating because we had so many things to do with children and not enough time to do them. We also found that once children began to

move, they wanted to keep going and going. The only thing that did hold them back was lack of time to work with them as often as they would have liked. But, we felt good, we felt we were moving in the right direction because we set up specific objectives, provided many different materials, many different ways to learn, many choices of activity, many ways for the child to experience independence and self - direction, and still had the time to maintain personal contact and work with all the children at various levels.

Question 18: What are some of the problems?

Our biggest problem was lack of TIME to do all the things we wished to do. TIME to keep ahead of children in skills center set ups. TIME to work with all children each day. TIME to record results of post tests on checklists. TIME to keep tapes, papers, art projects, motivators in an organized file. However, since we now have many centers already established, we have more time for keeping records, etc. The early stages are the most demanding.

One of our other problems was a matter of storage. Where would we put all the equipment we would not be using? How could we store the large motivators used at centers without damaging them or having to replace them? We have since secured a storage room where we can place our files, boxes, and materials on shelves. This will help immensely as organization is a must in this type of program.

Another of our problems was the amount of time it took to check all the mailboxes each day. Yet, we felt it essential to check because we used it as a diagnostic source. A partial solution to this problem has been building into the centers self - corrective materials. The problem of returning completed work was solved by providing another shelf of mailboxes or tote trays with the children's name on them. As we check the children's work, it is immediately placed in this second mailbox. When it is time to go home, the children stop at this mailbox and pick up their own work, no wasted time, no disciplining, no waiting around.

For those who will begin the centers approach to learning, your problem will be having enough centers developed to keep up with the children. We suggest developing many ahead of time with skills you know the children will need. We also became very aware of the importance of specific performance objectives. When we set up the centers, we also listed the specific objective and the degree of accuracy expected.

In the early stages of implementation, we found that we did not always stress the specific objectives or reasons for doing things with children. One of the objectives we grew to see the value of was "really tuning in" on the children and letting them know exactly why we wanted them to do something. Why shouldn't they know? We feel it is a motivating factor for them.

Since this narrative was prepared, the learning centers approach has been successfully implemented for the six year olds in this K-1 team, making it possible for 160 kindergarten and first grade children to participate in a continuous two - year learning centers program.

"LEARNING MATERIALS
ARE OUR BEST
TEACHERS"

Maria Montessori

| KINDERGARTEN MATH LEARNING CENTER CAPSULE | |
|---|---|
| CODE - A - M - I - 12 | TITLE - Self-Learning Charts - What Numeral Comes Before Another To 10. |
| PERFORMANCE OBJECTIVE- | To understand what numeral comes before another to ten in counting process. |
| PROCESS OBJECTIVE- | The child will go to the center, put on earphones, turn on the tape, listen to the directions given and follow along with the charts on the table as he points to the numerals asked and then is self - corrected immediately. |
| MOTIVATION- | Any one of the large cardboard motivators made previously to be hung above the learning center, beckoning the child. |
| MATERIALS - | Table and four chairs, tape player, four sets of earphones, adaptor, tape and accompanying laminated self - learning charts (four). |

KINDERGARTEN MATH LEARNING CENTER

TRANSCRIPT OF TAPE

| CODE | TITLE |
|---|---|
| A-M-I-12 | Tells what numeral comes before a given number 1 - 10. (Self - Learning) |

Hi there workers! At this learning center we want to help you to learn what numeral comes before another one when you count to ten. Look at the very top of the chart in front of you.

Above the red line are the numerals from 1 - 10. Use this number line to help you figure out which numeral comes before the one I say for each row below.

Put your finger on the flower row. Point to the numeral that comes just before 5 - Look at the number line on top of the chart to help you - 1-2-3-4-5. We said 4 just before we said 5 - so 4 does come before we can say 5.

Point to the smile row. Put your finger on the numeral that comes just before 4. Are you pointing to 3? If you are, you are right. 1-2-3-4. 3 comes just before 4.

Point to the diamond row. Put you finger on the numeral that comes just before 8. 7 is correct. 1-2-3-4-5-6-7-8. 7 comes just before 8.

Point to the tree row. Put your finger on the numeral that comes just before 10. 9 is right. 1-2-3-4-5-6-7-8-9-10.

LAST row, the triangle row. Point to the numeral that comes just before 8. 7 is right. 1-2-3-4-5-6-7-8.

Now look at the top of the chart again - at the number line. Count with me as you point to each numeral 1-2-3-4-5-6-7-8-9-10. Point to 3 - what numeral is just before it. 2 is right. Point to 5 - what numeral is just before it. 4 is correct. Point to 7 - what numeral comes just before it. 6 is right. Point to 2 - what numeral is just before it. 1 is correct. Point to 9 - what numeral comes just before it. 8 is correct.

Try this center again because it will help you to learn what numeral comes before another. But please do not forget to rewind the tape. Good - bye.

| KINDERGARTEN MATH LEARNING CENTER CAPSULE | |
|---|---|
| CODE - A-M-I-13 | TITLE - Self Learning "one more than" Booklets |
| PERFORMANCE OBJECTIVE- | To understand term "one more than" in relation to numerals 1 - 10 to assist in counting process. |
| PROCESS OBJECTIVE- | The child will go to the center, sit down at the table, put on earphones, turn on the tape, listen and follow along as directed in the self - learning laminated booklets, as he learns about "one more than" |
| MOTIVATION- | Giant cardboard Big Bird hanging above the center. Four 12" by 7" laminated booklets with miniature big birds on each cover, using cookie monster booklets (cookie pages only) for rest of it. |
| MATERIALS- | Table and four chairs, tape player, four earphones, adaptor box, teacher - made tape and accompanying set of four laminated teacher - made booklets, motivator. |

KINDERGARTEN MATH LEARNING CENTER TRANSCRIPT OF TAPE
CODE - A-M-I-13 TITLE - Self Learning "One More Than" Booklets

Well, I'll be! Big Bird has come to visit us. Say, what are you up to Big Bird? You're baking! What are you baking? Cookies!!! How many? Oh, you don't know yet. You want us to find out - How? Oh, by knowing what "one more than" means.

We'll use the booklets you brought along. Turn to the first page. Oh, we see 1 cookie and the numerals all the way to ten.

Put your finger on 1 - If Big Bird made 1 more than 1 cookie, how many did he make. Move your finger from 1 to 2.

Turn the page and see if there are 2 cookies - Yep! 1 more than 1 is 2. What would be 1 more that 2? Move your finger from 2 to 3.

Turn the page - Right! 1 more than 2 is three. Boy will Cookie Monster like this! You mean you've baked more? You baked 1 more than 3?

Turn the page - sure enough 1 more than 3 is - ? 4.

Now you say what's 1 more than 4. Show him - put your finger on 4 and move it to 5. One more than 4 is five. You made 5 cookies!

Turn the page! Sure enough! More!

Well, what's 1 more than 5 - look at the numerals. What comes after 5. 6. Turn the page and see if you are right. Count the cookies with me. 1-2-3-4-5-6 - one more than 5 is 6.

Say, Cookie Monster will get a tummy ache if he eats all those! Oh no! You made one more than 6! - that's how many? 7. Turn the page and count 1-2-3-4-5-6-7. One more than 6 is 7.

What would be 1 more than 7 - 8 is right.

Turn the page and count again. 1-2-3-4-5-6-7-8. Big Bird, you have made too many cookies - Cookie Monster will get fat.

You said you made 1 more than 8 - oh wow! That would be -- nine!

Turn the page. Sure enough 1 more than 8 is nine. That's enough Big Bird - Oh, you made just 1 more - let's see - one more than 9 would be - Turn the page and see!! Ten is one more than 9. Big Bird you will surely make Cookie Monster happy and fat!

Turn the page - Where are all the cookies? There are only numerals left. Oh, you put the cookies in a box and want to see if we know one more than now - okay - Let's play a game. Put you finger on the numeral that is one more than 2 - 3 is correct. Put your finger on the numeral that is 1 more than 5 - 6 is correct. Put your finger on the numeral that is 1 more than 1 - 2 is correct. Put your finger on the numeral that is one more than 2 - 3 is right. 1 more than 3 is? 4. 1 more than 4 is? 5. 1 more than 5 is? 6. 1 more than 6 is ? 7. 1 more than 7 is? 8. 1 more than 8 is? 9. 1 more than 9 is? 10.

Thanks alot for helping B.B. learn about what 1 more than means. I hope Cookie Monster enjoys his ten cookies! Please rewind the tape.

| KINDERGARTEN MATH LEARNING CENTER CAPSULE | |
|---|---|
| CODE - A-M-I-14 | TITLE - One Less Than (10) Follow - Up Sheets |
| PERFORMANCE OBJECTIVE- | To demonstrate understanding of term one less than in relation to sets and numerals through 10. |
| PROCESS OBJECTIVE- | The child will go to the center, sit down, put on the earphones, turn on the tape, and as the tape directs, the child will circle the numeral in each row on his follow - up sheets with a pencil to demonstrate his understanding of the concept. |
| MOTIVATION- | Cookie Monster hanging above the table. |
| MATERIALS - | Table and four chairs, tape player, four earphones and adaptor box, tape and accompanying dittoed sheets and pencils in a can. (Teacher made tape and sheets). |

KINDERGARTEN MATH LEARNING CENTER

TRANSCRIPT OF TAPE

| CODE | TITLE |
|---|---|
| A-M-I-14 | One Less Than Follow - Up Sheets |

Cookie Monster helped you to learn what "one less than" another number is with his cookie booklet. Now he would like to see if you really know what "one less than means."

There are two sheets stapled together. Put your name on the back of it right now. (Pause).

You should be ready. Look across the smile row. There are 5 octopuses. Circle enough to show what "one less than 5 is" right now. If you circle 4 of them, you are right!

Next row are 6 lions. Circle enough to show how much "one less than 6 is".

Now the next row, there are 7 fish. Circle enough to show how many "one less than 7 is".

Next row. There are 10 balls. Circle enough to show how many "one less than 10 is".

Last row on this page, there are 4 arrows. Circle enough to show how many "one less than 4 is".

Turn to the next page. On it are numerals only. I want you to circle the numeral this time, instead of a set of things, to show one less than another numeral.

Here we go. The smile row - Circle the numeral that is one less than 6.

The flower row. Circle the numeral that is one less than 3.

The ball row. Circle the numeral that is one less than 8.

The house row. Circle the numeral that is one less than 10.

The last row. Circle the numeral that is one less than 4.

We hope you did well. We will help you if you had troubles. You may do this center as often as you wish, but please rewind the tape.

| KINDERGARTEN MATH LEARNING CENTER CAPSULE | |
|---|---|
| CODE - A-M-I-15 | TITLE - Self - Learning First - Fifth Monkey Charts |
| PERFORMANCE OBJECTIVE- | To gain an understanding of directional terms first through fifth. |
| PROCESS OBJECTIVE- | The child will go to the center, sit at the center, put on the earphones, turn on the tape, listen to the tape and follow along on the laminated monkey - banana charts as directed by the tape to learn about first - fifth. |
| MOTIVATION - | A largecardboardmonkey hanging on board above the center, along wittth miniature monkeys on each of the charts used at the center. |
| MATERIALS- | Table and four chairs, tape player and four sets of earphones, adaptor box, teacher - made tape and accompanying set of four laminated monkey - banana charts. (Bananas being green, yellow, blue, orange, and red) (12" by 7" charts) |

KINDERGARTEN MATH LEARNING CENTER

TRANSCRIPT OF TAPE

| CODE | TITLE |
|---|---|
| A-M-I-15 | Self - Learning First - Fifth Monkey Charts |

"E-E-E-E-E:" Here's a monkey who's very excited. He found some colorful bananas to eat. But he wants to eat them in a certain order - in an order we call first, second, third, fourth, and fifth.

You often say this order when you get in line to get a drink or to go to the IMC. You say, I'm first - I'm second - I'm third - I'm fourth - I'm fifth. You're telling everyone that you are number 1 or first, number 2 or second one in line, number 3 or the third one in line, number 4 or the fourth one in line, number 5 or the fifth one in line. It tells what place you have in the line.

Let's help the monkey to learn what first through fifth means and help him understand what place his bananas are in.

Point to the green banana. It is the first banana because it is closest to the monkey and on the left side. That's its place - first.

Point to the second banana. It is banana number 2 and comes just after the first one. It is in the second place.

Point to the blue banana. It is banana number 3, or it is the third one in line. Third means 3.

Point to the orange banana. It is the fourth one. It means banana number 4 or it comes just after the third one. First, second, third, fourth place in line.

And the last banana is the red one. It is banana number 5 and it is called the fifth banana. It is banana number 5 in line.

Now put your finger on the green banana and say the places with me. From left to right. First second third fourth fifth.

We're going to play a game now. Show the monkey where his first banana is by pointing to it. The green one is first. Point to the third one. First, second third - The blue one is right. Point to the second one. It is the yellow one. Point to the fourth banana. It is the orange one. Point to the fifth one. It is the red one. The green banana is? Which one? First. The yellow banana is? Second. The blue banana is? Third. The orange banana is? Fourth. The red banana is? Fifth.

We hope you learned what place first second third fourth and fifth is and also helped the monkey learn too. Do this center often to learn by yourself! Please rewind the tape. Good - Bye.

| KINDERGARTEN MATH LEARNING CENTER CAPSULE | |
|---|---|
| CODE - A-M-XI-2 | TITLE - Self - Learning Half - Past Time Telling with three gray wall charts and individual charts. |
| PERFORMANCE OBJECTIVE | To learn how to tell half past times. |
| PROCESS OBJECTIVE- | The child will go to the center, sit down, put on the earphones, turn on the tape, observes wall clock charts as directed, then uses individual laminated clock charts in conjunction with tape to learn about half past times. |
| MOTIVATION- | Large Clown Clock. |
| MATERIALS - | Table and four chairs, tape player and adaptor box, set of four earphones, three laminated 9" by 9" clocks to place on board, one depicting 3:00, middle one depicting big hand moving to the six by way of a red arrow, and other depicting half past 3; and 4 self - corrective 9" by 9" laminated clock charts. |

KINDERGARTEN MATH LEARNING CENTER

TRANSCRIPT OF TAPE

| CODE | TITLE |
|---|---|
| A-M-XI-2 | Self - Learning Half Past Times with wall charts and Individual charts (No. 1) |

A Happy day to you!

You have done so well learning o'clock times, so now Mr. Clown Clock thinks you're ready to learn a new time - half past times. That's right. The hands of the clock don't stay on o'clock. They move all around the clock.

Look at the clocks on the board below Mr. Clown Clock. Find the one on the left (next to the green star). What time does it say? 3 o'clock is right because the big hand is on the 12 and the little hand is on the 3.

Now look at the middle clock - the big hand is moving and has gone half way around the clock and landed on the 6! And the little hand has just moved past the 3 a little.

Look at the last clock on the board. It now has the big hand on the 6 and the little hand just past the 3. When this happens, we have a new time - it is called half past 3. Say that time with me - half past 3.

The big hand has moved from the 12 and gone down to the 6; it's gone half way around the clock - that's why we call it half past.

Let's see if you can find the half past times I say on the clock charts in front of you.

Find the clock that shows half past 2 - the big hand is on the six and the little hand just past the 2. If you are pointing to the yellow one, you're right!

Now find half past 8 - big hand on the 6 and the little one just past the 8 - the blue clock is right.

Find the clock that shows half past 5 - The red one is correct.

Find the clock that shows half past 12 - the big hand is on the 6 and the little hand just past the 12 - purple is right.

Mr. Clown Clock hopes you do this center a number of times so you can learn half past times all by yourself.

When you think you know how, take a mini clock and show your teacher you know half times!! Please rewind the tape.

| KINDERGARTEN COMPREHENSION LEARNING CENTER CAPSULE | |
|---|---|
| CODE - A-R-II-B-1 | TITLE - Developing Interpretive Skills: Fox with Burlap Bag. |
| PERFORMANCE OBJECTIVE - | To further develop interpretive skills and encourage creativity. |
| PROCESS OBJECTIVE - | The child will go to the center, put on the earphones, turn on the tape, listen to directions and then draw what he thinks is in the bag. |
| MOTIVATION- | The large cardboard fox carrying something in his burlap bag. |
| MATERIALS- | Large cardboard fox holding a burlap bag with something in it. Bulletin board space to hang it; tape for explanation purposes, tape player, adaptor, connector, three earphones, table and three chairs, dittoed sheets with objective written on them. |

## KINDERGARTEN LANGUAGE LEARNING CENTER TAPE TRANSCRIPT

Interpretive Skills

CODE - A-R-II-B-1

TITLE - Developing Interpretive Skills: Fox with Burlap Bag.

Hello! I am the sly, sly fox. I'm a pretty sneaky animal. The other day I took my burlap bag with me when I went hunting. Boy - oh - Boy did I find something good!

Do you thing I might have found a truck? Or maybe you think I found a zebra. Or maybe you think I found a skunk? I...don't think so. Or maybe you think I found an elephant. I bet you just can't guess what I caught when I went hunting with my burlap bag.

Well, after I ask you to rewind the tape, I want you to feel my burlap bag gently to try to figure out what it is I caught. Then take a piece of paper - go to the drawing center and drew what you think I have in my bag. Don't tell anyone else. I want you to use you own ideas, and your own imagination. What do you think I caught in my bag?

Please rewind the tape now.